

electrode which comes in contact oxygen, to generate water from the oxygen, the electrons, and the protons ~~under~~ in the presence of the catalyst at the second electrode; whereby the membrane-electrode assembly ~~constitutes~~ acts as a fuel cell ~~as a whole~~, to ~~releases~~ release electric power, thus performing power generation.--

In the Claims:

Please cancel claims 1-2, 5, 9, 13-15 without prejudice to their prosecution in subsequent continuation or divisional applications. Please amend the claims as follows:

Claims 1-2 (canceled)

3. (Currently Amended) A fuel cell according to claim ~~2~~ 6, wherein,

said first electrode functions, in a state that no voltage is applied to said first electrode, as a fuel electrode which comes in contact with the hydrogen stored in said ~~storing~~ storage material, to generate protons and electrons from the hydrogen ~~under~~ in the presence of said catalyst at said first electrode;

said electrolyte membrane functions, in a state that no voltage is ~~not~~ applied to each of said first electrode and second electrode, as an ion exchange membrane which conducts the protons generated at said first electrode to said second electrode; and,

said second electrode functions, in a state that no voltage is applied to said second electrode, as an oxygen electrode which comes in contact with oxygen, to generate water from the oxygen, the electrons, and the protons ~~under~~ in the presence of said catalyst at said second electrode;

whereby said fuel cell releases electric power as a whole, to thus perform power generation.

4. (Currently Amended) A fuel cell according to claim 2 6, wherein said ~~storing~~ storage material is ~~made from~~ comprising fullerene molecules, carbon nanotubes, or carbon nanofibers.

Claim 5 (canceled)

6. (Currently amended) A fuel cell ~~according to claim 5, wherein~~ comprising:

- a) a first electrode having a catalyst for generating hydrogen;
- b) a storage material comprising a hydrogen storing alloy effective for capturing and storing the hydrogen generated at said first electrode;
- c) a separation membrane between said storage material and said first electrode that essentially ~~for preventing~~ prevents ~~said storing~~ storage ~~material from being corroded is provided between said storing material and said first electrode;~~
- d) a second electrode having a catalyst for generating oxygen, said second electrode being provided while allowed to be in contact with water; and
- e) a proton conductive electrolyte membrane having a proton conductor produced by introducing proton dissociative groups into a base body comprising a carbonaceous material containing carbon as a main component, said electrolyte membrane being provided between said first electrode and second electrode,

wherein,

when a negative voltage is applied to said first electrode and a positive voltage is applied to said second electrode, oxygen, protons and electrons are generated from water in the presence of said catalyst at said second electrode, and hydrogen is generated from the protons and the electrons in the presence of said catalyst at said first electrode.

7. (Currently amended) A fuel cell ~~according to claim 6, wherein comprising:~~

- a) a first electrode having a catalyst for generating hydrogen;
- b) a storage material comprising a hydrogen storing alloy effective for capturing and storing the hydrogen generated at said first electrode;
- c) a separation membrane between said storage material and said first electrode that essentially prevents said storage material from being corroded, said separation membrane ~~being selectively permeable to hydrogen is a hydrogen selectively permeable~~ membrane.;
- d) a second electrode having a catalyst for generating oxygen, said second electrode being provided while allowed to be in contact with water; and
- e) a proton conductive electrolyte membrane having a proton conductor produced by introducing proton dissociative groups into a base body comprising a carbonaceous material containing carbon as a main component, said electrolyte membrane being provided between said first electrode and second electrode,

wherein,

when a negative voltage is applied to said first electrode and a positive voltage is applied to said second electrode, oxygen, protons and electrons are generated from water in

the presence of said catalyst at said second electrode, and hydrogen is generated from the protons and the electrons in the presence of said catalyst at said first electrode.

8. (Currently amended) A fuel cell ~~according to claim 6, wherein~~ comprising:

- a) a first electrode having a catalyst for generating hydrogen;
 - b) a storage material comprising a hydrogen storing alloy effective for capturing and storing the hydrogen generated at said first electrode;
 - c) a separation membrane between said storage material and said first electrode that essentially prevents said storage material from being corroded, said separation membrane is ~~made from~~ comprising polyethylene, polypropylene, or polytetrafluoroethylene;
 - d) a second electrode having a catalyst for generating oxygen, said second electrode being provided while allowed to be in contact with water; and
 - e) a proton conductive electrolyte membrane having a proton conductor produced by introducing proton dissociative groups into a base body comprising a carbonaceous material containing carbon as a main component, said electrolyte membrane being provided between said first electrode and second electrode;
- wherein,
- when a negative voltage is applied to said first electrode and a positive voltage is applied to said second electrode, oxygen, protons and electrons are generated from water in the presence of said catalyst at said second electrode, and hydrogen is generated from the protons and the electrons in the presence of said catalyst at said first electrode.

Claim 9 canceled.

10. (Currently Amended) A fuel cell ~~according to claim 9, wherein~~ comprising:

- a) a first electrode having a catalyst for generating hydrogen;
 - b) a storage material for capturing and storing the hydrogen generated at said first electrode;
 - c) a storage body where said storage material being in the form of fine particles are aggregated, said storage body is disposed in proximity to said first electrode or directly connected to said first electrode,
 - d) ~~a separation membrane for preventing said fine particles of said storing material from being scattered to said first electrode is provided between said storage material and said first electrode;~~ that essentially prevents said fine particles of said storage material from being scattered to said first electrode;
 - e) a second electrode having a catalyst for generating oxygen, said second electrode being provided while allowed to be in contact with water; and
 - f) a proton conductive electrolyte membrane having a proton conductor produced by introducing proton dissociative groups into a base body comprising a carbonaceous material containing carbon as a main component, said electrolyte membrane being provided between said first electrode and second electrode,
- wherein,
- when a negative voltage is applied to said first electrode and a positive voltage is applied to said second electrode, oxygen, protons and electrons are generated from water in the presence of said catalyst at said second electrode, and hydrogen is generated from the protons and the electrons in the presence of said catalyst at said first electrode.

11. (Currently Amended) A fuel cell ~~according to claim 10, wherein~~ comprising:

- a) a first electrode having a catalyst for generating hydrogen;
- b) a storage material for capturing and storing the hydrogen generated at said first electrode;
- c) a storage body where said storage material being in the form of fine particles are aggregated, said storage body is disposed in proximity to said first electrode or directly connected to said first electrode,
- d) a separation membrane between said storage material and said first electrode that essentially prevents said fine particles of said storage material from being scattered to said first electrode, said separation membrane being selectively permeable to hydrogen is a hydrogen-selectively permeable membrane;
- e) a second electrode having a catalyst for generating oxygen, said second electrode being provided while allowed to be in contact with water; and
- f) a proton conductive electrolyte membrane having a proton conductor produced by introducing proton dissociative groups into a base body comprising a carbonaceous material containing carbon as a main component, said electrolyte membrane being provided between said first electrode and second electrode;

wherein,

when a negative voltage is applied to said first electrode and a positive voltage is applied to said second electrode, oxygen, protons and electrons are generated from water in the presence of said catalyst at said second electrode, and hydrogen is generated from the protons and the electrons in the presence of said catalyst at said first electrode.

12. (Currently Amended) A fuel cell ~~according to claim 10, wherein~~ comprising:

- a) a first electrode having a catalyst for generating hydrogen;
- b) a storage material for capturing and storing the hydrogen generated at said first electrode;
- c) a storage body wherein said storage material in the form of fine particles are aggregated, said storage body is disposed in proximity to said first electrode or directly connected to said first electrode,
- d) a separation membrane between said storage material and said first electrode that essentially prevents said fine particles of said storage material from being scattered to said first electrode, said separation membrane is made from comprising polyethylene, polypropylene, or polytetrafluoroethylene.
- b) a second electrode having a catalyst for generating oxygen, said second electrode being provided while allowed to be in contact with water; and
- c) a proton conductive electrolyte membrane having a proton conductor produced by introducing proton dissociative groups into a base body comprising a carbonaceous material containing carbon as a main component, said electrolyte membrane being provided between said first electrode and second electrode,
- wherein,
- when a negative voltage is applied to said first electrode and a positive voltage is applied to said second electrode, oxygen, protons and electrons are generated from water in the presence of said catalyst at said second electrode, and hydrogen is generated from the protons and the electrons in the presence of said catalyst at said first electrode.

Claims 13-15 (canceled)